

SET ON NOTES: PALINDROMES AND OTHER SYMMETRY IN THE MUSIC OF VIKTOR ULLMANN

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Schoenberg educates his pupils, in the deepest sense of the word; so compelling is the human contact he involuntarily establishes with every one that his pupils flock around him as the disciples around their Master . . . the essence of the man has affected the thoughts and feelings of all those who call themselves his pupils, and, because of this, we feel a certain spiritual bond between all of us. For anyone who has been his pupil, his name is no mere reminder of student days: it is one's artistic and human conscience.¹

In light of the above remarks, it is not surprising that Schoenberg had a far-reaching effect on pupil Viktor Ullmann (1898–1944). Not only did Ullmann study with Schoenberg in the *Seminar für Composition* (1918–19), but at Schoenberg's suggestion Ullmann was also made a founding member of the executive committee of the *Verein für Musikalische Privataufführungen* (Society for Private Musical Performances), created by Schoenberg in the same year (1918). As a result, Ullmann developed significant personal and professional relationships with many of the figures closely associated with the Viennese master, most notably Alexander Zemlinsky and Alban Berg.²

Evidence of the far-reaching influence of Schoenberg and his circle is found in Ullmann's use of symmetry to create coherence and structure—a primary unifying feature

¹ Heinrich Jalowetz, quoted in Willi Reich, *Arnold Schönberg, oder Der konservative Revolutionär* (Vienna: Fritz Molden, 1968), translated by Leo Black as *Schoenberg: A Critical Biography* (London: Longman, 1971), 28–29.

² Ullmann, through Schoenberg's recommendation, joined Zemlinsky's conducting staff at the Deutsche Landestheater in Prague in 1920, succeeding Webern as chorus master and répétiteur, and then becoming the second Kapellmeister in 1922, succeeding Heinrich Jalowetz. Zemlinsky's performance of fragments from Berg's *Wozzeck* had a particularly personal effect on Ullmann, and led to a correspondence between Ullmann and Berg that lasted throughout the early 1930s. For a more detailed discussion of these connections, see this author's Ph.D. dissertation, *The Musical Language of Viktor Ullmann* (Yale Univ., 2001), 7–17.

throughout his music. Like many composers of his time, Ullmann had to contend with the dissolution of functional tonality, a system that had already ceased to hold universal value when he began his studies with Schoenberg in 1918. Along with other members of the Schoenberg circle, Ullmann became interested in generating a coherent musical structure through the manipulation of a limited amount of referential material. Although throughout his *oeuvre* he grappled with issues of tonality and atonality, varying the extent to which he integrated the two, he remained consistent throughout his different stylistic periods in using symmetry to create coherence and structure in his music.³ Thus, we see symmetry playing a role in Ullmann's earliest works, represented by the *Variationen und Doppelfuge über ein Thema von Arnold Schoenberg* of 1925; his middle-period works, including the first and third piano sonatas (1936 and 1940, respectively); and the Theresienstadt works, including the melodrama *Die Weise von Liebe und Tod des Cornets Christoph Rilke* and Piano Sonata No. 7 (both written in 1944, the year of Ullmann's death).⁴

Ullmann acknowledges both his debt to the Schoenberg School for “strict, i.e., logical structures” and the fact that, despite stylistic differences, his works form a unity (although he doesn't explicitly name symmetry as providing this unity):

It seems that I was always striving for a twelve-tone system on a tonal basis, similar to the merging of major and minor keys. What may be involved is the exploration of the limitless areas of tonal, functional harmony, or the bridging of the gap between romantic and “atonal” harmony. I am indebted to the Schoenberg [S]chool for strict, i.e., logical structures, and to the Hába school for a refinement of melodic sensitivity, the vision of

³ Ullmann's earliest works are closest in style to the “free atonality” of the Second Viennese School, while subsequent works reflect a greater interest in maintaining some semblance of tonality.

⁴ Ullmann spent the final two years of his life (1942–44) in the Theresienstadt concentration camp. Billed as a “model town” or “Paradise Ghetto,” Theresienstadt was used to mask the existence of death camps. Among other things, its inmates participated in numerous cultural activities such as lectures, concerts, cabarets, plays, and poetry readings. Ullmann wrote many new works during his two years in Theresienstadt, before being deported to Auschwitz where he was killed in the gas chambers.

new formal values and the liberation from the canons of Beethoven and Brahms. If I look at my works, I see in each of them a different style, and yet it seems to me that they form a unity.⁵

Ullmann's preoccupation with symmetry was certainly not unusual for his time; indeed, symmetry was "something of a *fin-de-siècle* (and later) preoccupation, especially in the German-speaking world."⁶ A number of scholars have explored the role of symmetry in works of the Second Viennese School composers.⁷ An exploration of Ullmann's use of symmetry, specifically in the context of this School, not only demonstrates the impact of Schoenberg and his circle but, more importantly, reveals how Ullmann's use of symmetry is distinct from that of his models.

The most significant type of symmetry found consistently in Ullmann's music is "mirror" symmetry,⁸ where symmetry is created about a specific focal pitch or pair of pitches. This symmetry typically works in pitch space, both on the surface and as a larger structural feature of Ullmann's music. According to Schoenberg, "the only really symmetrical forms in music are the mirror forms, derived from contrapuntal music."⁹ Secondary to this main type is an interest in symmetrical pitch collections, such as segments from the whole-tone and octatonic collections.

⁵ Max Bloch, "Viktor Ullmann: A Brief Biography and Appreciation," *Journal of the Arnold Schoenberg Institute* 3/2 (1979), 165. This quote comes from a 1938 note in which Ullmann listed the works he still considered worthwhile, followed by the above remarks. He also associates the *Schoenberg Variations* most closely with the Schoenberg School.

⁶ Stephen Peles, "'Ist Alles Eins': Schoenberg and Symmetry," *Music Theory Spectrum* 26/1 (2004), 57.

⁷ Schoenberg's preoccupation with symmetry as an essential element in his tonal and nontonal music is discussed in David Lewin, "Inversional Balance as an Organizing Force in Schoenberg's Music and Thought," *Perspectives of New Music* 6/2 (1968): 1–21. See also Peles, "'Ist Alles Eins': Schoenberg and Symmetry"; Severine Neff, "Comments on Dunsby's Review of Maegaard's *Studien*," *Perspectives of New Music* 18/1–2 (1979–80): 426–431; Bruce Archibald, "Some Thoughts on Symmetry in Early Webern: Op. 5, No. 2," *Perspectives of New Music* 10/2 (1972): 159–163; Dave Headlam, *The Music of Alban Berg* (New Haven, CT: Yale Univ. Press, 1996); and Robert P. Morgan, "The Eternal Return: Retrograde and Circular Form in Berg," in *Alban Berg: Historical and Analytical Perspectives*, ed. David Gable and Robert P. Morgan (New York: Oxford Univ. Press, 1991): 111–150.

⁸ The term "mirror symmetry" comes from Jonathan W. Bernard, "Space and Symmetry in Bartók," *Journal of Music Theory* 30/2 (1986), 188.

⁹ Arnold Schoenberg, *Fundamentals of Musical Composition*. ed. by Gerald Strang with the collaboration of Leonard Stein (London: Faber, 1967), 25, n. 1.

These symmetrical pitch collections are often structurally significant, serving to delineate formal sections or to unify thematic material within a given work.

Figures of mirror symmetry pervade Ullmann's *oeuvre*. For instance, a closing gesture used by Ullmann involves preceding a given tonic with the chromatic upper and lower neighbors to $\hat{5}$; this is one of the ways he is able to create an axis of symmetry, in this case through the "missing" dominant root. As shown in Figure 1a, this gesture occurs at the end of the *Variationen und Doppelfuge über ein Thema von Arnold Schoenberg* (1925), where there is a clear reference to F major. In an otherwise atonal context, Ullmann creates a tonal reference to F major by proceeding from $\hat{1}$, $\hat{3}$, and $\hat{4}$ to the chromatic upper and lower neighbors of $\hat{5}$, finally ending on $\hat{1}$.¹⁰ By replacing the expected dominant root (C, which should immediately precede the final F) with its chromatic upper and lower neighbors ($D\flat$ and $C\flat$), Ullmann creates symmetry about the "missing" root.

This closing gesture also occurs at the end of Piano Sonata No. 3's Mozart Variations (1940)—also a set of variations and fugue—which are based on an early theme by Mozart, KV 3.¹¹ The final three measures of the movement, shown in Figure 1b, clearly reference $B\flat$ major, the tonic of Mozart's theme. Yet once again, instead of the standard root motion by descending fifth in the bass for the final cadence ($F-B\flat$), the expected dominant root F is replaced by its chromatic upper and lower neighbors, $G\flat$ and $E\sharp$, in the left hand of the penultimate chord. Thus Ullmann is achieving harmonically what he had done melodically in the *Schoenberg Variations*.¹² This idea can be applied to the two chords preceding the penultimate "dominant" chord

¹⁰ This is reinforced by an F pedal for the twelve measures leading up to this closing.

¹¹ As with the *Schoenberg Variations*, Ullmann uses the original music in its entirety, although he imbues the variations and fugue with a highly chromatic, late Romantic, and truly "Ullmannian" flavor.

¹² Note that this chord can also be viewed as a German augmented-sixth chord in $B\flat$ (containing $\hat{1}$, $\hat{3}$, $\sharp\hat{4}$, and $\flat\hat{6}$) with the added note A ($\hat{7}$). However, this chord does not resolve properly to V, but instead moves directly to I.

FIGURE 1. Mirror symmetry around “missing” dominant root(a) *Schoenberg Variations*, final two measures(b) *Mozart Variations*, final three measures

[01468] [01468] [01468] BbM

as well, which are simply transpositions of the same chord through the circle of fifths.¹³

This type of symmetry, involving inversional balance about a specific pitch, comes directly from Schoenberg. As early as *Verklärte Nacht* (1899), where the tonic of D minor is encircled by Bb major, C major, E major, and F# major, Schoenberg favored inversionally related key areas.¹⁴ Here the keys of Bb and C, on one side of D, are symmetrically balanced by the keys of E and F# on the other. Another early example is his First String Quartet, op. 7 (1905), in which the opening section contains statements of the principal theme in D minor (m. 1), Eb minor (m. 30), C# major (m. 54) and D minor (m. 65), again creating an axis of symmetry

¹³ These pentachords, members of set class [01468], can be classified as whole-tone +, after Headlam, in that they contain just one note outside of the whole-tone collection (see Headlam, *The Music of Alban Berg*, 68).

¹⁴ See Neff, “Comments on Dunsby’s Review,” 430.

through the tonic, D.¹⁵ Here Schoenberg is encircling the tonic with its chromatic upper and lower neighbors, as Ullmann similarly encircled the missing dominant root at the end of both the Schoenberg and Mozart Variations. More directly relevant to Ullmann's examples is the first movement of Schoenberg's Second String Quartet, op. 10 (1908), in which "[s]ymmetries are also present in foreground levels at cadence points. For example, in m. 90, A \flat and B \flat encircle A, in mm. 145–146 G \flat and E \rightarrow F, and A \flat and B \flat \rightarrow A; in mm. 201–202, G and E \sharp \rightarrow F \sharp , and C and D \rightarrow C \sharp [etc.]."¹⁶ The focus on individual pitches, specifically at cadence points, rather than on key areas to create the axis of symmetry resonates most clearly with Ullmann's above examples.

The idea of mirror symmetry is expanded in the next example, one of the central recurring themes from Ullmann's *Die Weise von Liebe und Tod des Cornets Christoph Rilke* (1944), a large-scale work for narrator and orchestra or piano (see Figure 2a).¹⁷ Here the absent focal pitch, A \flat , is surrounded by a succession of pitches, rather than only the upper and lower chromatic neighbors. As shown in Figure 2b, the symmetry is disrupted by the eighth-note C in m. 2. To maintain exact symmetry, this note should be B \flat , five semitones above the F preceding it; but instead Ullmann moves five semitones in the "wrong" direction. By doing so, he is able to maintain the starting note of this theme, E \flat , as the ending note (by subsequently going in the "correct" direction, up three semitones from the C). Thus Ullmann is replacing one type of

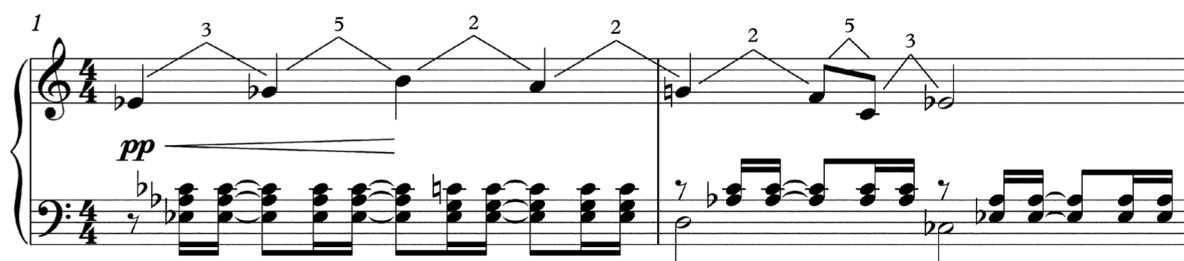
¹⁵ See Lewin, "Inversional Balance as an Organizing Force," 4.

¹⁶ Neff, "Comments on Dunsby's Review," 430.

¹⁷ The surviving manuscript of *Die Weise von Liebe und Tod des Cornets Christoph Rilke*, more a short score than a work for piano (there are no fingerings or other specific piano markings), indicates that this piece was probably conceptualized first as an orchestral melodrama. Only later did Ullmann add the indication "for speaker and orchestra or piano"; the Theresienstadt performances of the work, which continued through the end of September 1944 (by pianist/conductor Rafael Schachter and actor Fritz Lerner), took place with piano. All that has been preserved of the orchestral score is the first musical section (Part I, II) and the first twelve measures of the second (Part I, III), both in a clear fair copy. The complete instrumentation was not fully realized until 1994, long after Ullmann's death, by Henning Brauel, based on Ullmann's specifications in the short score. See Andreas Krause's liner notes, "...For Orchestra or Piano," translated Lionel Salter, in Viktor Ullmann, *Cornet / Don Quixote tanzt Fandango / Klavierkonzert* (Orfeo CD, C366951A, 1995), with Erika Pluhar, Igor Ardasev, and the Tschechische Philharmonie conducted by Gerd Albrecht.

FIGURE 2. Ullmann, *Die Weise*

(a) Part 1, V, mm. 1–2



(b) Disruption of symmetry in above soprano theme

Symmetry preserved: $E\flat - G\flat - B - A - [A\flat] - G - F - B\flat - D\flat$ Ullmann's version: $E\flat - G\flat - B - A - [A\flat] - G - F - (C) - (E\flat)$

symmetry (i.e., ending where he began) for another (i.e., mirror symmetry). The unordered pitch-class interval sequence, 3–5–2–2–2–5–3, forms a palindrome, albeit in the more abstract realm of interval classes; however, our perception of it is weakened by the inexact coupling of this symmetry with both contour (discussed above) and rhythm (i.e., the two eighth notes leading to a half note at the end of the theme).

Ullmann's use of symmetry in this example is distinct from that of his models, and is perhaps the result of a greater interest in maintaining some semblance of tonality. As in the previous examples, his use of symmetry relates directly to the tonality of the passage, although here the focal pitch is the missing *tonic* root, $A\flat$, rather than the missing dominant root. However, unlike in the previous examples, where the missing dominant never appeared, here the $A\flat$ -minor triad is clearly present in the left hand throughout mm. 1–2, while the adjustments Ullmann makes to end on $E\flat$ in the right hand theme help to emphasize the dominant.

We are once again reminded of Schoenberg in the primarily whole-tone construction of the right hand theme. In his *Harmonielehre* (1911), after going through some lengths to stress the

FIGURE 3. Schoenberg's derivation of the whole-tone scale
(from *Harmonielehre*, 391)



German derivation of the whole-tone scale and related chords,¹⁸ Schoenberg demonstrates two derivations of the whole-tone scale, reproduced in Figure 3. The first comes from an augmented triad, with the melody above moving from chord tone to chord tone with a passing tone in between, producing two whole steps (and dividing the major third into two equal parts). The second is produced by passing tones over a dominant seventh chord with augmented or omitted fifth.

The theme of Ullmann's *Die Weise* can be seen as a merging of Schoenberg's examples; the function is much closer to the dominant-seventh derivation (here built on E \flat), although the absence of the actual seventh of the V⁷ (D \flat) relates more exactly to Schoenberg's first example.¹⁹ Schoenberg's explanation of the harmonic and structural possibilities of whole-tone chords as dominant functioning has important ramifications for understanding Ullmann's music.²⁰ Frequently Ullmann will employ whole-tone sonorities (or whole-tone *based* sonorities, often with one note outside of the collection) to fulfill a loosely dominant function; indeed, this is

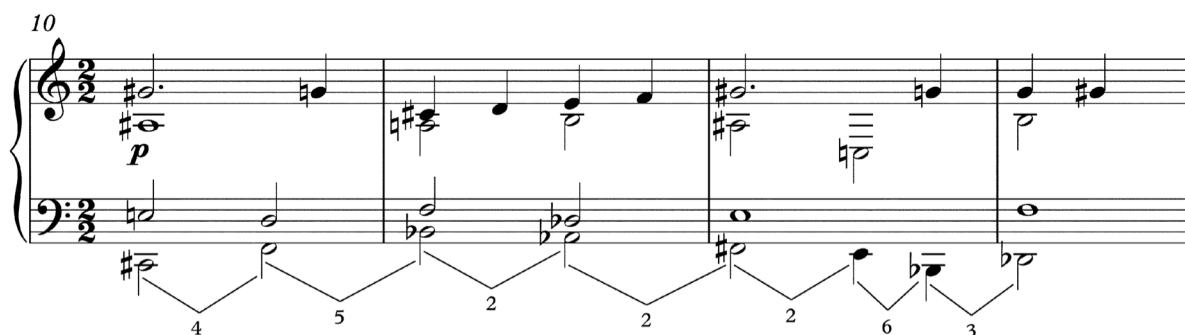
¹⁸ "I was acquainted neither with the Russians, nor with Debussy, nor with this composition of Liszt [his *Réminiscences de Don Juan*] when I wrote it [the whole-tone scale] for the first time; and long before that my music showed tendencies that had to lead to the whole-tone scale. . . . I believe . . . that the whole-tone scale has occurred to all contemporary musicians quite of its own accord, as a natural consequence of the most recent events in music." Arnold Schoenberg, *Harmonielehre*, 3rd ed. (Vienna: Universal Edition, 1922), translated Roy E. Carter as *Theory of Harmony* (Berkeley: Univ. of California Press, 1978), 390.

¹⁹ The lowered 3, G \flat , temporarily disrupts the whole-tone focus in the Ullmann example, as does the eighth note C, already discussed for disrupting the mirror symmetry.

²⁰ Schoenberg also mentions these chords' potential for modulation, though this use is not as pertinent to Ullmann's musical language.

FIGURE 4. Ullmann, *Die Weise*

(a) Part 2, III, mm. 10–13



(b) Disruption of symmetry in above bass theme

Symmetry preserved: C \sharp – F – B \flat – A \flat – [G] – F \sharp – E – A – C \sharp Ullmann's version: C \sharp – F – B \flat – A \flat – [G] – F \sharp – E – (B \flat) – D \flat

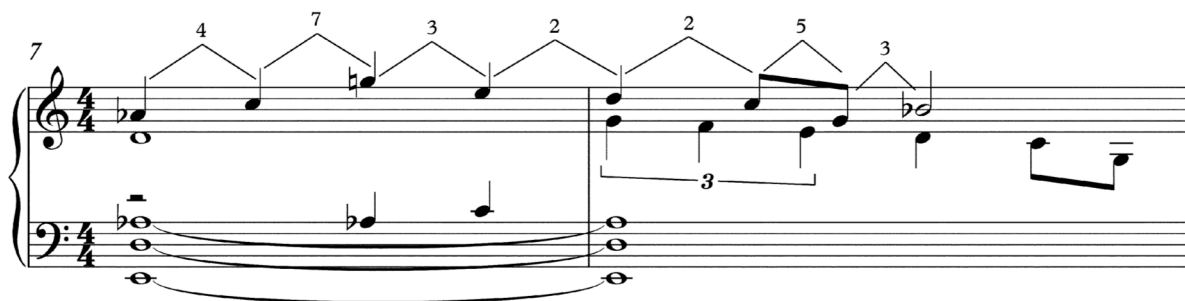
precisely the case in the Mozart Variations discussed earlier (recall Figure 1b, where a succession of [01468] pentachords preceded the final tonic).²¹

In *Die Weise*, the symmetry of Ullmann's original theme is temporarily disrupted with two subsequent versions of the theme. In Part 2, III (Figure 4a, bass) the opening interval is expanded by a half step; the penultimate interval is, in turn, expanded by a half step as well, creating a tritone, presumably to maintain the final interval, ic3, and end once again on the pitch with which this version of the theme began (C \sharp /D \flat). Here, however, ending on the starting note does not disrupt the symmetry but, in contrast to the previous example, maintains it. The axis of symmetry, which has shifted to G, is preserved by beginning and ending a tritone away (see Figure 4b). The melodic G–C \sharp descent in the right hand, mm. 10–11, seems to be a foreground expression of this symmetry. The resulting unordered pitch-class interval sequence, 4–5–2–2–2–

²¹ Also refer again to n. 13.

FIGURE 5. Ullmann, *Die Weise*

(a) Part 2, V, mm. 7–8



(b) Disruption of symmetry in above bass theme

Symmetry preserved: $A^b - C - G - E - [E^b] - D - B - F^\sharp - B^b$ Ullmann's version: $A^b - C - G - E - [E^b] - D - (C) - (G) - B^b$

6–3, is no longer a palindrome, but the theme is still recognizable, largely because the contour remains intact.²²

The third version, from Part 2, V (shown in Figure 5a, soprano) continues the expansion of the opening intervals, spanning almost an octave (A^b4 – $G5$) between the first three pitches, so that the overall effect is a gradual widening of the initial three-note ascent. In this third version, the axis of symmetry has again shifted, now to E^b , although this has little bearing on the surrounding music. An exception is Ullmann's preservation of the mirror symmetry in ending on B^b (see Figure 5b), resulting in the only version of the theme that doesn't end where it began. Here the unordered pitch-class interval sequence, 4–7–3–2–2–5–3, is furthest removed from the original palindrome.²³

²² In other words, the contour class, $\langle 1\ 3\ 6\ 5\ 4\ 2\ 0\ 1 \rangle$, remains the same as that of the original theme. This terminology, adopted from Michael Friedmann, is interpreted as follows: for any given contour with n number of pitches, 0 equals the lowest pitch and $n-1$ equals the highest pitch. See Friedmann, "A Methodology for the Discussion of Contour: Its Application to Schoenberg's Music," *Journal of Music Theory* 29/2 (1985): 223–248.

²³ The contour class, $\langle 1\ 3\ 6\ 5\ 4\ 3\ 0\ 2 \rangle$, has been only slightly altered.

FIGURE 6. Ullmann, *Die Weise*: Part 2, VII, mm. 3–6

Significantly, the final statement of this theme occurs in the Finale in its original form, albeit rhythmically augmented (Figure 6), signifying that the climax has been achieved and symmetry, perhaps as a metaphor for order, has been restored. The internal symmetry of this theme is reinforced on a larger scale in its placement within the work—it was first introduced in the final section of Part 1 and returns in the final section of Part 2—creating symmetry in the concluding movements of each main section of the piece.²⁴

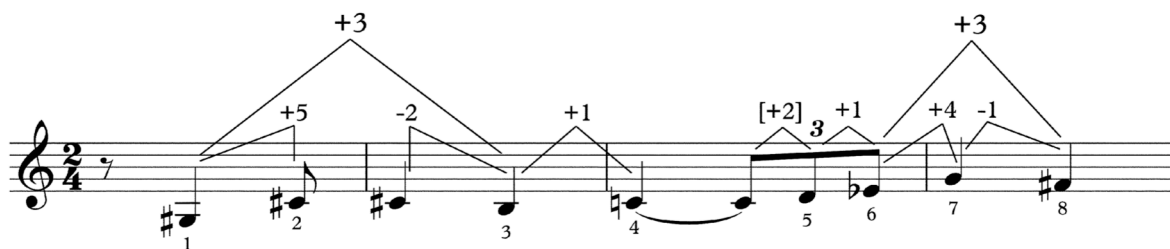
Written in the same year as *Die Weise*, the slow movement of Ullmann's Piano Sonata No. 7 contains similarly “skewed” mirror symmetry, now in the form of an eight-tone row (see Figure 7a). As shown in Figure 7b, the row is symmetrical about the pitch axis C \sharp , or the midpoint of the eight-tone row (i.e., between the fourth and fifth pitches). Once again the symmetry is disrupted, and again it is the penultimate pitch that is the culprit. In order to maintain exact symmetry about the C \sharp axis, the penultimate pitch should be C \sharp , but Ullmann opts instead for its tritone replacement, G.²⁵ Unlike the example from *Die Weise*, where Ullmann

²⁴ One must invoke the text to see that this musical symmetry corresponds directly to that of Rilke's prose poem. The original theme accompanies the text “Der von Langenau schreibt einen Brief” (“Von Langenau is writing a letter”), while the text of the theme's recurrence in the Finale is about a courier riding slowly into Langenau. Moreover, the altered versions of the theme discussed above (Figures 4a and 5a) accompany texts that similarly stray from the original, centering on images of light and a questioning of reality.

²⁵ Ullmann's eight-tone row is saturated with tritones, containing three of four possible tritone pairs (G \sharp –D, C \sharp –G, and C–F \sharp); this interval will be significant in the ensuing music and discussion.

FIGURE 7. Ullmann, Piano Sonata No. 7, III

(a) Palindrome-like structure of eight-tone row



(b) Disruption of symmetry in above eight-tone row

Symmetry preserved: $G\# - C\# - B - C - [C\#] - D - E\flat - C\# - F\#$

Ullmann's version: $G\# - C\# - B - C - [C\#] - D - E\flat - (G) - F\#$

FIGURE 8. Ullmann, Piano Sonata No. 7, III: Invariances between row forms

P_0 : $G\# \ C\# \ [B \ C \ D \ E\flat] \ G \ F\#$

I_{10} : $F\# \ C\# \ [E\flat \ D \ C \ B] \ G \ G\#$

P_{11} : $G \ C \ [B\flat \ B \ C\# \ D] \ F\# \ F$

I_9 : $F \ C \ [D \ C\# \ B \ B\flat] \ F\# \ G$

P_9 : $F \ B\flat \ [G\# \ A \ B \ C] \ E \ E\flat$

I_7 : $E\flat \ B\flat \ [C \ B \ A \ G\#] \ E \ F$

maintained the “correct” successive interval pattern but simply changed direction of one interval, here he restores the mirror symmetry with the last pitch, $F\#$ (thus altering the interval pattern between the final two notes of the row). It seems that in this case he is perhaps more conscious of symmetry about a central axis.

Indeed, this symmetry is crucial in understanding the row's unique invariant properties. Specifically, as shown in Figure 8, when P_0 is combined with I_{10} , the entire eight-tone row is held invariant, reversing the order of the inner tetrachord [0134], holding the pitches of order numbers

2 and 7 invariant, and exchanging the pitches of order numbers 1 and 8.²⁶ This invariant relationship, which highlights the mirror symmetry discussed above, is maintained when any row form P_{0+n} combines with I_{10+n} , where n is the number of semitones transposed from G^\sharp . The relevant pairs for the opening of the movement, P_{11}/I_9 and P_9/I_7 , are also given in Figure 8 and will be discussed presently.

The symmetrical [0134] tetrachord of Ullmann's row is used to quite a different effect by Schoenberg in *Die Jakobsleiter* (1917).²⁷ Here, Schoenberg composes a six-tone row, $C^\sharp-D-F-E-G^\sharp-G$ (yielding an ordered octatonic segment, [013467]), which contains two contiguous, overlapping statements of [0134]: $\{C^\sharp, D, E, F\}$ and $\{E, F, G, G^\sharp\}$. Clearly Schoenberg, like Ullmann, is aware of the symmetrical properties of this set, though Schoenberg shifts the axis of symmetry to the chromatic dyad $F-E$, expanding the inherent symmetry of [0134] to two inverse-related statements that constitute his six-tone row.

In the slow movement of Ullmann's Piano Sonata No. 7, the symmetry of the eight-tone row is reflected on a larger scale in the movement as a whole: a rounded binary form in which the outer sections are derived from a series of musical palindromes. The B section, in contrast, is devoid of both palindromic structure and any presence of the eight-tone row. Instead, Ullmann achieves coherence by using many of the same sonorities in the B section that were introduced in the opening of the movement, although not through any strict adherence to a tone row.

²⁶ I am using the "movable do" taxonomy, where P_0 is the original row beginning on G^\sharp ; order numbers assume the first note of the row to be order number 1.

²⁷ Ullmann heard *Die Jakobsleiter*, the earliest work exhibiting Schoenberg's twelve-tone technique, in a rare public performance during the second season of the Prague branch of the *Verein für Musikalische Privataufführungen* (this performance is to be distinguished from the reading of the complete poem by actor Wilhelm Klitsch on 22 May 1921, as part of the Vienna Society for Private Musical Performances; see Reich, *Schoenberg: A Critical Biography*, 98). Ullmann, in addition to his work at the Deutsche Landestheater at the time, was involved in organizing activities of the Prague Society, founded by Zemlinsky in 1922 with Schoenberg as its honorary president.

FIGURE 9. Ullmann, Piano Sonata No. 7, III: Palindrome in mm. 1–16

1 *Adagio ma con moto*

pp *espr.*

3

[0268] [04] [0258] [026]

9

p *pp* *p* *mf* *pp*

[0258] [04] [0268]

The opening sixteen measures of the A section, shown in Figure 9, are almost an exact palindrome, maintaining pitch, rhythm, and register, with the midpoint occurring after m. 8 (slight rhythmic discrepancies occur between mm. 8 and 9). The midpoint of the palindrome serves a formal function, dividing the opening sixteen measures into two eight-measure phrases, mm. 1–8 and 9–16. In fact, the phrases throughout the movement are almost exclusively grouped in symmetrical eight-measure divisions, with the exception of the final phrases of both the B and A' sections (which are seven and five measures in length, respectively).

The initial four measures, containing the eight-tone row in the right hand, are followed by a four-measure continuation in which the remaining four pitches are introduced, not as part of the row, but in combination with pitches already used.²⁸ The right-hand melody of mm. 5–8 (B–B \flat –

²⁸ These opening eight measures follow a fairly straight-forward sentence structure: a two measure basic idea, followed by its varied repetition, followed by a continuation that includes motivic fragmentation, an acceleration of harmonic rhythm, and use of sequence. For a discussion of how these opening bars constitute “a more modern and particularly suggestive example of sentence failure,” see Matthew BaileyShea, “Beyond the Beethoven Model: Sentence Types and Limits,” *Current Musicology* 77 (2004), 24–26 (quotation from 24). Note that the sentence structure detracts from our perception of the symmetry of the eight-tone row in the same way that the asymmetrical rhythm and contour of the *Die Weise* theme detracted from perceiving its symmetry.

C \sharp –D, A–A \flat –B–C) contains two consecutive statements of [0134], first as a segment from P₁₁/I₉ and then from P₉/I₇. (Recall that the row's inner tetrachord, [0134], is always invariant between two related row forms; these particular pairs were shown in Figure 8.) The tritones in the right hand of mm. 5 and 7 (C/F \sharp and B \flat /E) correspond to order numbers 2 and 7 of these same row pairs, respectively, resulting in the presence of six of the eight notes of P₁₁/I₉ and P₉/I₇ in these four measures. The vertical sonorities taken as a whole, [0268], [04], [0258], and [026], are predominantly whole-tone segments, a manifestation of Ullmann's interest in symmetrical pitch collections. While not stemming directly from any additional row forms, these sets are among those carried over into the B section.²⁹

The next sixteen measures, constituting the remainder of the A section (mm. 17–32), contain the palindrome only in the bass, while the upper voices provide a countermelody. The same is true in the A' section, although now the palindrome occurs between outer voices: the first eight-measure phrase sounds in the soprano (mm. 64–71), while the retrograde version occurs in the bass (mm. 72–79). Meanwhile, as shown in Figure 10, imitative entries of the eight-tone row occur doubled at the octave in the bass in mm. 67–68 (the second half of the opening four-measure motive, slightly altered by beginning on B instead of C) and in mm. 68–71 (a complete statement of the opening four-measure motive). Once again Ullmann seems to be obscuring the symmetry with other, asymmetrical surface features, in this case arising from contrapuntal considerations.³⁰

²⁹ [0268] is also frequently expanded in the B section to [02468], an almost complete whole-tone collection.

³⁰ Increasing tension with imitation and fugue is a common technique in Ullmann's finales, occurring frequently either at the conclusion of a movement or as a complete movement at the end of a piece. Examples of the former location include the end of String Quartet No. 3 (mm. 262–269 and the stretto section, mm. 317–321), the end of the first part of *Die Weise* (movement V), and the final two movements of *Der Kaiser von Atlantis* ("The Emperor's Farewell" and the canon of the "Finale"). Examples of the latter location include the fifth and final movements of both Piano Sonata No. 5 ("Finale fugato") and Piano Sonata No. 7 ("Variationen und Fuge über ein hebraisches Volkslied").

FIGURE 10. Ullmann, Piano Sonata No. 7, III: A' section, mm. 64–71

In the previous examples of symmetry there was a direct correlation between the axis of symmetry and the tonal focus of the passage; here, however, the tonal focus is less clear. Considering the eight-tone row's symmetry about the C^\sharp axis, one may hear the opening $G^\sharp-C^\sharp$ motion as analogous to a move from $\hat{5}$ to $\hat{1}$, though what follows negates any sense of a C^\sharp tonality. Moreover, the larger-scale palindrome that occurs over the first sixteen bars is symmetrical about the pitch C , not C^\sharp (see mm. 8–9; C is the midpoint of the palindrome). When these two focal points, C and C^\sharp , are combined, however, the result is a large-scale representation of the surface chromatic dyads that were prominent in the second half of the opening phrase (or the “continuation” segment of the eight-measure sentence structure); they also encapsulate one of the essential intervals of the symmetrical [0134] tetrachord fundamental to Ullmann's eight-tone row.

Palindromic structures can be found in music of all three Second Viennese School composers as well, although only Berg and Webern incorporate them into their serial compositions.³¹ For instance, in Berg's first fully twelve-tone piece, his resetting of the song “Schließe mir die Augen beide” (1925),³² a palindrome occurs in the bottom voice of mm. 5–7, as a

³¹ Michael Cherlin discusses Schoenberg's use of interval palindromes in *Moses und Aron*, but this is distinct from the large-scale formal palindromes I am referring to here. See Cherlin, “Dramaturgy and Mirror Imagery in Schoenberg's *Moses und Aron*: Two Paradigmatic Interval Palindromes,” *Perspectives of New Music* 29/2 (1991): 50–71.

³² Berg first set this poem by Theodor Storm in 1907, as a non-serial work. The second setting contains the same twelve-tone, all-interval row used in the first movement of Berg's *Lyric Suite*.

FIGURE 11. Berg, “Schließe mir die Augen beide”: Palindrome, mm. 5–7

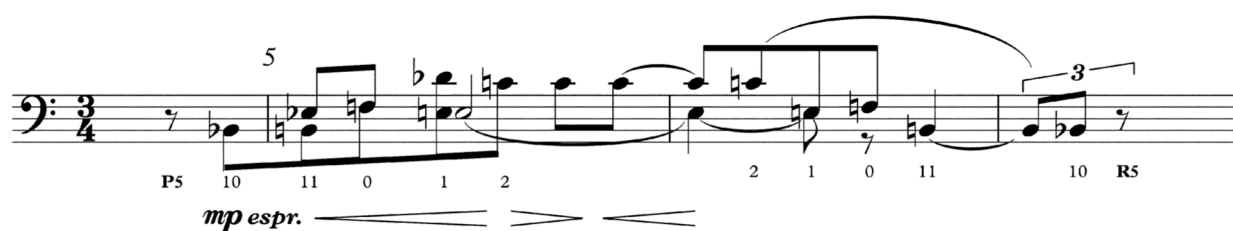
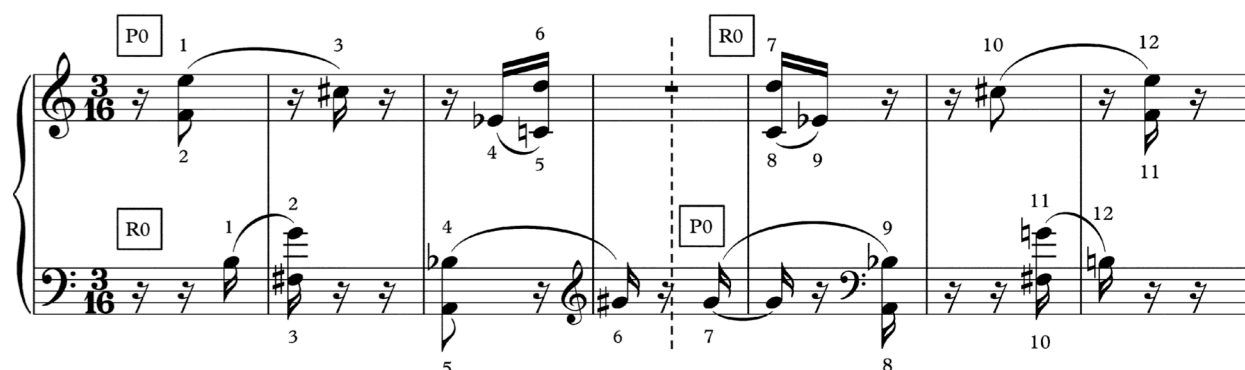


FIGURE 12. Webern, Piano Variations, Op. 27: Palindrome, in opening



segment from P_5 , as shown in Figure 11. As in the third movement of Ullmann’s Piano Sonata No. 7, here the midpoint of the palindrome serves a formal function, dividing the opening ten measures into two five-measure phrases, mm. 1–5 and 6–10.

The opening seven measures of the first movement of Webern’s Piano Variations, Op. 27 (1936), shown in Figure 12, are also an exact palindrome, with the midpoint occurring halfway through m. 4, although occasionally eighth-note and sixteenth-note rhythmic values are exchanged (compare, for instance, mm. 1–2 and 6–7 in the right hand, or mm. 3–4 and 4–5 in the left hand). As in Ullmann’s Piano Sonata No. 7, III, “the main structural idea of the *Piano Variations*, op. 27 is derived not so much from the row itself as from the idea of combining the original form of the row with its untransposed retrograde.”³³

³³ Robert P. Morgan, *Twentieth-Century Music* (New York: W. W. Norton, 1991), 207.

FIGURE 13. Ullmann, Piano Sonata No. 1, II: mm. 1–9

Andante (quasi marcia funebre)

1

pp

stacc.

pp

A[0258]

pp

p

espr.

X

6

poco cresc.

p

pp

T₁X

[048]

T₂X

T₁A

T₂A (missing E_b)

A

FIGURE 14. Ullmann, Piano Sonata No. 1, II: mm. 10–19

10

mf > pp

pp dolce, tranquillo

ppp

pp

p sempre

T₁X

T₂X

A

[048]

14

ppp

pp

pp

RT₂X

RT₁X

RX

A

[048]

In addition to the slow movement of Ullmann's Piano Sonata No. 7, the slow movement of his Piano Sonata No. 1 (1936) also contains a large-scale retrograde, although in a non-serial context.³⁴ Not only does the opening section contain a retrograde of the six-measure soprano phrase (as we shall see presently), but this symmetry is duplicated on a larger scale in the final section, which is an exact retrograde of the first section.

In this movement, an *Andante quasi Marcia funèbre* entitled "In memoriam Gustav Mahler," the opening eight measures consist of a series of semitone transpositions of the initial musical ideas. As shown in Figure 13, the march-like repeating gesture on C, alternating with [0258] or motive "A" in the bass in mm. 1–5, is transposed upward by one semitone in mm. 6–7 and then by another semitone in m. 8 (although one note, E \flat , is omitted in the second transposition). The first transposition gives a temporary sense of a tonic–dominant relationship, as we have progressed from the repeating bass-note figure on C in mm. 1–4 to a G dominant seventh chord on the downbeat of m. 6. This tonal reference is fleeting, however, not only because the sequence continues several bars later, but also because the opening C is itself transposed by a semitone on beat 3 of m. 6, becoming D \flat . The melody introduced in the soprano in mm. 3–5, consisting of a three-note motive "X" (A–E–G, a subset of the left hand's [0258]), is similarly twice transposed upward by semitone (first to B \flat –F–A \flat in mm. 6–7, and then to B–F \sharp –A, rhythmically diminished, in m. 8), thus paralleling the ascending chromatic line in the bass (G \flat –G–A \flat). An ascending augmented triad, C \sharp –F–A, again exemplifying a symmetrical pitch structure albeit on the surface level, links the two semitone transpositions (this is also shown in Figure 13).

³⁴ "Non-serial" here refers to music that isn't organized using a tone row. Of course, any retrograde is necessarily dependent upon serial order.

FIGURE 15. Ullmann, Piano Sonata No. 1, II: mm. 50–68

50 *Tempo I*

55

60

64

espr. *dolce* *ppp* *p* *pp* *ppp* *p sempre*

tranquillo, dolce *pp*

dolce *pp* *mf* *poco dim.*

Red. *pp* *pp* *pp* *sogleich Satz III.*

Indeed, the entire first section (mm. 1–19) is generated by various repetitions of the opening melodic—and, to a lesser extent, harmonic—material (compare Figures 13 and 14). For instance, mm. 11–13 contain the melody of mm. 6–8, now in the tenor with slightly altered rhythms, while the bass line of mm. 14–19 is almost an exact retrograde of the entire soprano line from mm. 4–9. Only the rhythm is not preserved exactly, but instead is shortened by two quarter notes to compensate for the lack of the $\frac{6}{4}$ bar; this occurs, reading from m. 19 backwards, with the G in m. 17 and the A in m. 14 (compare with m. 5 and mm. 8–9, respectively). The symmetry of this opening section is reinforced on a larger scale in the final section, mm. 50–68, which is an exact retrograde—maintaining pitch and rhythm in all voices—of the first nineteen measures (compare Figure 15 with Figures 13 and 14). Thus the framing sections of the movement form a large-scale palindrome.

“Der Mondfleck,” the eighteenth piece of Schoenberg’s *Pierrot Lunaire*, reflects a similar “polyphonic organization whose strictness of planning goes far beyond that of [Schoenberg’s] earlier atonal counterpoint.”³⁵ Here, a large-scale palindrome generates the entire nineteen-measure double canon in the strings (violin and cello) and winds (piccolo and clarinet), with the midpoint occurring halfway through m. 10 (this is accompanied by a piano fugue).³⁶ Although nineteen bars is the precise length of the section that is retrograded in Ullmann’s Piano Sonata No. 1, II (possibly representing an intentional nod to Schoenberg), Ullmann’s retrograde does not generate the entire movement as Schoenberg’s does.

Perhaps more than it recalls the music of Schoenberg, Ullmann’s symmetrical structuring of Piano Sonata No. 1, II calls to mind the music of Berg, whose “inclination to achieve

³⁵ Bryan R. Simms, *The Atonal Music of Arnold Schoenberg, 1908–1923* (New York: Oxford Univ. Press, 2000), 135.

³⁶ The midpoint of the palindrome coincides with the point in the text where Pierrot turns around and notices a spot of moonlight on his back.

symmetrical balances through retrograde return”³⁷ is apparent throughout his *oeuvre*. The first instance of palindromic return in Berg’s music occurs in the Op. 2/1 song “Dem Schmerz sein Recht” (1910), in which the first ten measures are restated in reverse order in mm. 24–30.³⁸ The first of the *Three Orchestral Pieces*, Op. 6 (1914–15) concludes with a retrograde return of the opening material, while in *Wozzeck*, the retrograde return of the introductory Prelude at the end of the Suite represents “the hopeless cycle in which Wozzeck and his progeny are trapped.”³⁹ In Berg’s *Chamber Concerto* for Piano, Violin, and Thirteen Wind Instruments (1925), not only does the slow movement consist of a palindrome (the second half of the movement is largely a retrograde of the first half), but the overall construction of the three movements is also symmetrical with respect to numbers of measures:

Especially remarkable is the mathematical exactitude with which the numbers of measures in different sections have been made to correspond to one another. In the first movement, a theme with variations, the theme lasts 30 measures, the variations respectively 30, 60, 30, 30, and 60 measures. This produces a total of 240 measures, which is balanced by the 240-measure length of the second movement (a slow movement whose second half recapitulates the material of the first half in reverse order). Finally, these two movements, which together equal 480 measures, are balanced by the 480 measures of the third and final movement, a rondo that combines the music of both of the previous movements within a final synthesis.⁴⁰

Although Ullmann’s interest in symmetrical structures is not carried out to the extent of Berg’s, clearly symmetrical design is integral to Ullmann’s compositional thought and places him solidly among the many twentieth-century composers who relied on symmetry as “a means of constructing coherent pitch and interval relationships in the absence of diatonic tonality.”⁴¹

³⁷ Morgan, “The Eternal Return,” 137.

³⁸ See Headlam, *The Music of Alban Berg*, 37–41.

³⁹ See Headlam, *The Music of Alban Berg*, 47.

⁴⁰ Morgan, *Twentieth-Century Music*, 213

⁴¹ David W. Bernstein, “Symmetry and Symmetrical Inversion in Turn-of-the-Century Theory and Practice,” in *Music Theory and the Exploration of the Past*, ed. Christopher Hatch and David W. Bernstein (Chicago: Univ. of Chicago Press, 1993), 378.

Ullmann attributes his use of “logical structures” (e.g., symmetry) to the Schoenberg School, though he has appropriated these logical structures into his own distinctive voice, one that is diverse and meaningful. Schoenberg asserts that “I cannot help but think logically and if then, as I build, those well-known symptoms of musical logic show themselves—even in places where I have not consciously put them—that should surprise nobody who has any conception of what musical logic is.”⁴² For Ullmann, too, these logical structures seem to be deeply imbedded in his musical aesthetic and, conscious or not, provide a solution for his compositional challenges.

⁴² Arnold Schoenberg, “Constructed Music,” in *Style and Idea: Selected Writing of Arnold Schoenberg*, ed. Leonard Stein, translated Leo Black (Berkeley: Univ. of California Press, 1975), 107.

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ABSTRACT

Viktor Ullmann (1898–1944), a pupil of Arnold Schoenberg, not only studied with the Viennese master but also developed significant personal and professional relationships with many of those closely associated with him, most notably Alexander Zemlinsky and Alban Berg. Evidence of the far-reaching influence of Schoenberg and his circle is found in Ullmann’s creation of coherence and structure through symmetry—a primary unifying feature throughout his music. While he grappled with issues of tonality and atonality, varying the extent to which he integrated the two, he remained consistent in using symmetry throughout his *oeuvre*. We see symmetry playing a role in his earliest works, represented by the *Variationen und Doppelfuge über ein Thema von Arnold Schoenberg* of 1925; his middle-period works, including the first and third piano sonatas (1936 and 1940, respectively); and the Theresienstadt works, including the melodrama *Die Weise von Liebe und Tod des Cornets Christoph Rilke* and Piano Sonata No. 7 (both written in 1944, the year of his death).

The most significant type of symmetry found consistently in Ullmann’s music is “mirror” symmetry, which is created about a specific focal pitch or pair of pitches. This symmetry typically works in pitch space, both on the surface and as larger structural features of Ullmann’s music. An exploration of Ullmann’s use of symmetry, specifically in the context of the Second Viennese School, not only demonstrates the impact of Schoenberg and his circle but—more importantly—reveals how Ullmann’s use of symmetry is distinct from that of his models.

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